

WHAT IS CLAIMED IS:

1. In an image-processing application, a computer-implemented method for representing a lens flare, the method comprising:

defining a set of parameters specifying one or more characteristics of a lens flare, the set of lens flare parameters including a location of a center point for the lens flare in an image;

generating a vector-based representation of the lens flare, the vector-based representation including a plurality of vector objects representing a flare halo and one or more flare rings, the halo comprising a first circle centered at the center point, the rings comprising one or more second circles centered on one or more first lines passing through the center point; and

associating the plurality of vector objects as a group of objects.

2. The method of claim 1, wherein:

associating the plurality of vector objects comprises identifying the plurality of vector objects as belonging to the representation of the lens flare.

3. The method of claim 1, wherein:

associating the plurality of vector objects comprises defining one or more dependencies between two or more of the plurality of vector objects, such that altering a first vector object causes a second vector object dependent on the first vector object to be altered.

4. The method of claim 1, wherein:

the vector-based representation of a lens flare includes one or more vector objects representing one or more flare rays, the flare rays comprising one or more second lines extending from the center point.

5. The method of claim 1, wherein:
the parameters include one or more parameters selected from the group consisting of width of the flare, length of the flare, radius of the halo, number of rays, number of rings, and direction of the rings.
6. The method of claim 5, wherein:
the parameters further include one or more additional parameters selected from the group consisting of proportionality of width and length, opacity of one or more flare elements, color of one or more flare elements, brightness of one or more flare elements, fuzziness of one or more flare elements, size of the largest ray, and size of largest ring.
7. The method of claim 1, further comprising:
displaying a visual representation of the vector based representation of a lens flare.
8. The method of claim 7, wherein:
displaying the visual representation of the vector based representation of a lens flare includes altering a background color in an image region proximate to one or more lens flare elements.
9. The method of claim 7, further comprising:
receiving first user input specifying edits to the vector-based representation of a lens flare; and
editing the vector-based representation of a lens flare in response to user input to generate an edited vector-based representation of a lens flare.
10. The method of claim 9, wherein:
editing the vector-based representation of a lens flare includes changing values associated with one or more lens flare parameters.

11. The method of claim 7, wherein:

displaying the visual representation of the vector-based representation of a lens flare includes displaying a visual representation of a plurality of lens flare elements, the plurality of lens flare elements including a lens flare halo, one or more lens flare rings, and optionally one or more lens flare rays; and

receiving user input includes receiving electronic data representing a manipulation by the user of one or more of the displayed lens flare elements.

12. The method of claim 11, wherein:

receiving user input includes receiving electronic data representing a selection of one or more of the displayed lens flare elements.

13. The method of claim 11, wherein:

the electronic data representing a manipulation by the user of one or more of the displayed lens flare elements includes electronic data representing a click and drag operation.

14. The method of claim 1, wherein:

the vector based representation of a lens flare is generated in response to a single user input defining a location for the lens flare in an image.

15. A computer program product stored on a computer-readable medium for representing a lens flare in an image processing application, the computer program product comprising instructions operable to cause a programmable processor to:

define a set of parameters specifying one or more characteristics of a lens flare, the set of lens flare parameters including a location of a center point for the lens flare in an image;

generate a vector-based representation of the lens flare, the vector-based representation including a plurality of vector objects representing a flare halo and one or more flare rings, the halo comprising a first circle centered at the center point, the rings comprising one or more second circles centered on one or more first lines passing through the center point; and

associate the plurality of vector objects as a group of objects.

16. The computer program product of claim 15, wherein:
the instructions operable to cause a programmable processor to associate the plurality of vector objects comprise instructions operable to cause a programmable processor to identify the plurality of vector objects as belonging to the representation of the lens flare.
17. The computer program product of claim 15, wherein:
the instructions operable to cause a programmable processor to associate the plurality of vector objects comprise instructions operable to cause a programmable processor to define one or more dependencies between two or more of the plurality of vector objects, such that altering a first vector object causes a second vector object dependent on the first vector object to be altered.
18. The computer program product of claim 15, wherein:
the vector-based representation of a lens flare includes one or more vector objects representing one or more flare rays, the flare rays comprising one or more second lines extending from the center point.
19. The computer program product of claim 15, wherein:
the parameters include one or more parameters selected from the group consisting of width of the flare, length of the flare, radius of the halo, number of rays, number of rings, and direction of the rings.
20. The computer program product of claim 19, wherein:
the parameters further include one or more additional parameters selected from the group consisting of proportionality of width and length, opacity of one or more flare elements, color of one or more flare elements, brightness of one or more flare elements, fuzziness of one or more flare elements, size of the largest ray, and size of largest ring.
21. The computer program product of claim 15, further comprising instructions operable to cause a programmable processor to:
display a visual representation of the vector based representation of a lens flare.

22. The computer program product of claim 21, wherein:
the instructions operable to cause a programmable processor to display the visual representation of the vector based representation of a lens flare include instructions operable to cause a programmable processor to alter a background color in an image region proximate to one or more lens flare elements.
23. The computer program product of claim 21, further comprising instructions operable to cause a programmable processor to:
receive first user input specifying edits to the vector-based representation of a lens flare; and
edit the vector-based representation of a lens flare in response to user input to generate an edited vector-based representation of a lens flare.
24. The computer program product of claim 23, wherein:
the instructions operable to cause a programmable processor to edit the vector-based representation of a lens flare include instructions operable to cause a programmable processor to change values associated with one or more lens flare parameters.
25. The computer program product of claim 21, wherein:
the instructions operable to cause a programmable processor to display the visual representation of the vector-based representation of a lens flare include instructions operable to cause a programmable processor to display a visual representation of a plurality of lens flare elements, the plurality of lens flare elements including a lens flare halo, one or more lens flare rings, and optionally one or more lens flare rays; and
the instructions operable to cause a programmable processor to receive user input include instructions operable to cause a programmable processor to receive electronic data representing a manipulation by the user of one or more of the displayed lens flare elements.

26. The computer program product of claim 25, wherein:
the instructions operable to cause a programmable processor to receive user input
include instructions operable to cause a programmable processor to receive electronic data
representing a selection of one or more of the displayed lens flare elements.
27. The computer program product of claim 25, wherein:
the electronic data representing a manipulation by the user of one or more of the
displayed lens flare elements includes electronic data representing a click and drag operation.
28. The computer program product of claim 15, wherein:
the vector based representation of a lens flare is generated in response to a single user
input defining a location for the lens flare in an image.